REVIEWS OF BOOKS

EDUCATION

Floud, J. E., Halsey, A. H. and **Martin, F. M.** *Social Class and Educational Opportunity.* London, 1957. Heinemann. Pp. xix + 152. Price 12s. 6d.

THIS is an important book giving the results of a very worthwhile piece of research. The authors show that, in S.W. Hertfordshire and in Middlesbrough in 1952-53 entrance to a grammar school was dependent on ability (as measured by I.Q.) and was virtually independent of social class provided that the ability was there. By contrast, in pre-war days many working-class children of ability were kept out of grammar schools whilst middle-class children of lower ability were accepted, and this book documents the results of a major educational reform which ensures that precious ability is no longer wasted in this way.

The value of publication in book form is shown by the considerable space (half a page, including a leader) devoted to summary and comment in *The Times Educational Supplement* for January 25th, 1957, whereas the shorter account by Dr. F. M. Martin in EUGENICS REVIEW for January 1957 (pp. 195-202) passed without notice.

Unfortunately the value of the book as a work of reference is enormously reduced by the laziness of the authors and the niggardliness of the publishers in not insisting on an index. Thus, in order to investigate the truth of the *T.E.S.* statement that " it is startling to find how much better children from small families get on, regardless of social class," it was necessary to search all through the book to find the ten scattered references, two of which were incorrect cross-references. At the end of this search it was discovered (p. 151) that, as had been suspected, " the numbers . . . are too small when broken down for analysis . . . to yield differences which we can be certain are due to causes other than chance."

The danger is that, if enough people of high intelligence are influenced by a supposed disability attaching to families larger than two children, our hard-won equality of educational opportunity will be rendered less valuable because of the smaller number of persons of ability being born.

KENNETH HUTTON.

PHYSIOLOGY

Tanner, J. M. *Growth at Adolescence.* Oxford, 1955. Blackwell Scientific Publications. Pp. xii + 212. Price 32s. 6d.

THE title of this excellent book may mislead some potential readers, if they suppose that Dr. Tanner has written merely a survey of changes of weight and shape during a short period in human development: his scope is far wider than that. The book does begin with a chapter on " physical growth "; and this includes, not only data on the period of adolescence, but also an account of earlier growth, so that changes after nine or ten years, and especially the " adolescent spurt," can be seen against the background of the child's growth considered as a whole. There is further a valuable critique of methods of research on growth, and of the analysis of data and presentation of results: in particular, the importance of longitudinal studies, in which the same individuals are studied at each age, is emphasised. The effects of individual variation on growth curves based on averages are also clearly brought out.

There follow chapters on the development of the reproductive system and on differences of physique between the sexes, and a warning is given of the inadequacy of the data on the latter subject. On the fourth topic, that of " developmental age " and " physiological maturity," Dr. Tanner writes:

> Because individuals vary so much in the age at which they reach adolescence, and because adolescence involves such relatively large changes in body size, physiological function and

social behaviour, the bald statement that a boy is aged 14 is in most contexts hopelessly vague.

The notion that a given measurable character is *distributed* in a population in a complex, even if analysable, way, has not yet been sufficiently grasped by doctors or even by biologists, let alone parents or teachers; the need for people to think on these lines is very clearly shown by Dr. Tanner's data. As an example of the detail into which he goes, and the relative independence of the variables with which he is concerned, we have:

> . . . while girls are ahead of boys in what we may call general dental age, they are considerably more ahead for some teeth than for others.

The practical importance of what might be called statistical comprehension emerges most clearly in chapter 5, on factors influencing the adolescent spurt: these include nutrition and illness, as well as genetical agencies; and there are short discussions of the significance of socio-economic class, climate and "race." The great difficulty with this subject is to achieve a balanced presentation of the effects and interactions of nature and nurture, and this Dr. Tanner conspicuously achieves.

There follow chapters on physiological changes in general, and endocrinological changes in particular, at adolescence. Again, some of the data extend back into the early years. There is also a short chapter on motor development.

In chapter nine, changes of behaviour are briefly reviewed. This is perhaps an even more difficult subject than the others, and it left the reviewer with a feeling of dissatisfaction. For instance, it is asserted that when intelligence tests are "individually and properly administered the correlations between scores from year to year down to about age 7 are very similar in pattern and not much lower than the correlations for physical measurements." References are given to support this statement, but—in view of the controversies which have raged around the subject—a fuller exposition would have been welcome. Then again, intelligence test score and "intelligence" (unqualified) are equated.

The final chapter is an admirable review of data on the "adolescent spurt" in animals other than man.

The book is well written and pleasantly produced; the graphs are clear and carefully chosen; the photographs are informative and of good quality; and there is a magnificent bibliography. This book will be of value, not only to physicians, but also to physiologists, zoologists and others concerned with any part of the vast study of mammalian growth processes.

S. A. BARNETT.

GENETICS

Colin, Edward C. *Elements of Genetics: Mendel's Laws of Heredity with Special Application to Man.* Third Edition. New York and London, 1956. McGraw-Hill. Pp. xii + 498. Price 43s.

SEVERAL books on heredity have been published recently in America, which have been based on systematic lectures given to undergraduates taking genetics as one of their subjects for a degree. The quality of these books is often high and this is true of Dr. Colin's work. Little previous knowledge of genetics is assumed and much historical material and human genetics is included, so that it will interest the general reader. But difficult problems are not avoided and the book is well up-to-date. After each chapter a question paper is included by which the reader may test whether he has understood the text.

Two of the chapters are specifically on human heredity and eugenics. The chapters on human heredity show, as is inevitable where the author is a zoologist and not a medical practitioner, some lack of direct experience of the conditions mentioned, but are well documented. The discussion on eugenics is sensible, dispassionate and not, as in many books of this kind, concerned only to demonstrate the difficulties and uncertainties. Positive eugenics is discussed under the headings Regulation of immigration, Subsidizing superior individuals, Education, Promotion of genetic research, Improvement of environmental conditions.